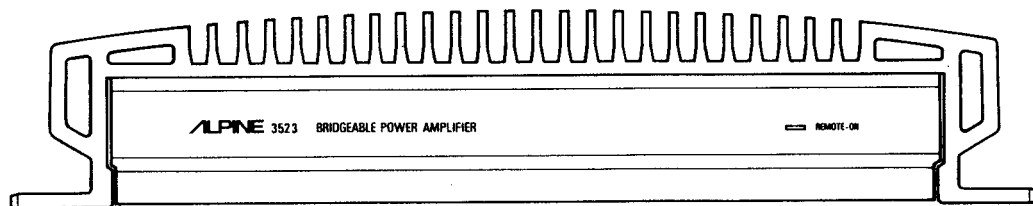


ALPINE

SERVICE MANUAL

Power Amplifier



3523

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Specifications

Power Source	14.4V DC(11 ~ 16V)
Polarity	Negative ground
Current Drain	1800mA
Power Output	35W/2ch
Input Sensitivity	0.5V $\pm$ 2dB(Fix position) 2V $\pm$ 2dB(Variable position)
Frequency Response	20Hz to 40KHz
Residual Noise	2mV
Separation	55dB
Input Impedance	10Kohm $\pm$ 2Kohm
Semiconductors	4 IC's, 29 Transistors, 22 Diodes 6 Zener Diodes, 1 LED
Dimension	276 (W) $\times$ 140 (D) $\times$ 53 (H)mm
Weight	1.9 kg

NOTE : Due to continuing product improvement, specifications and design subject to change without notice.

Parts Locations

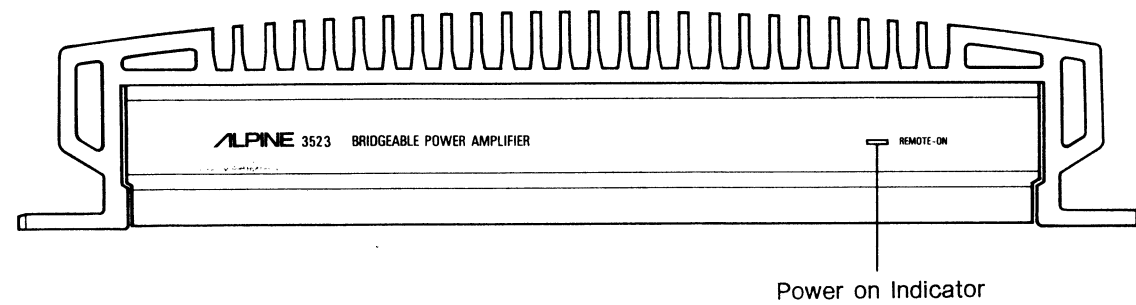


Figure 1

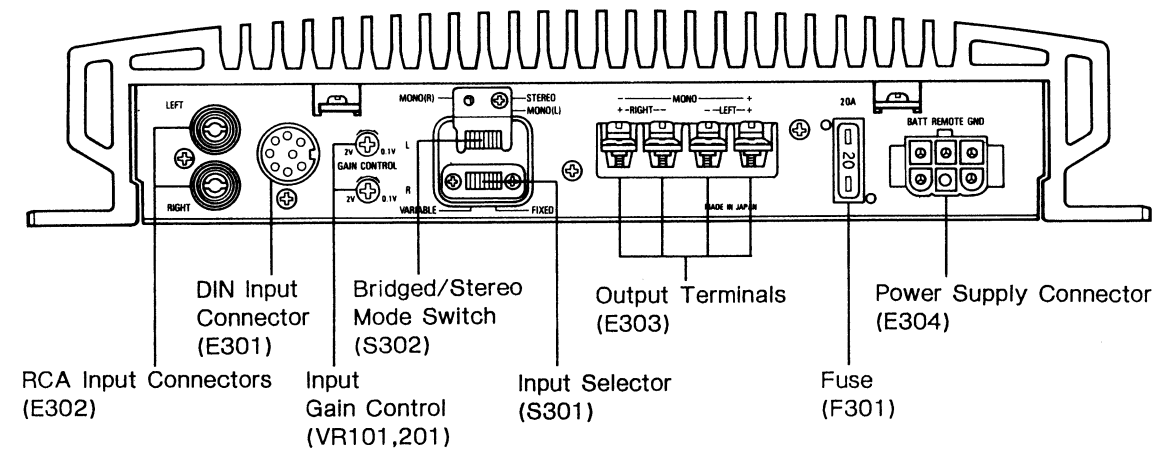
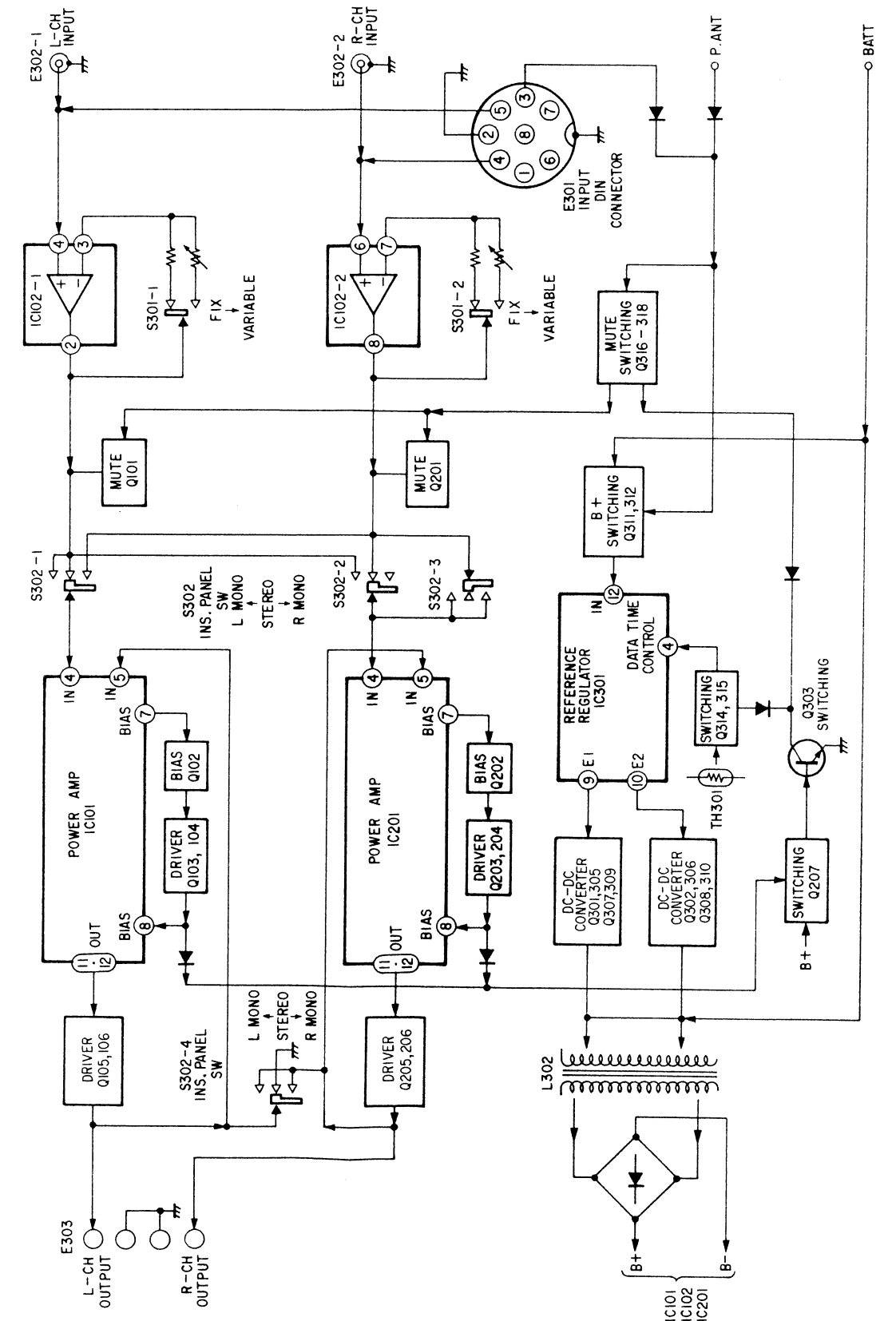
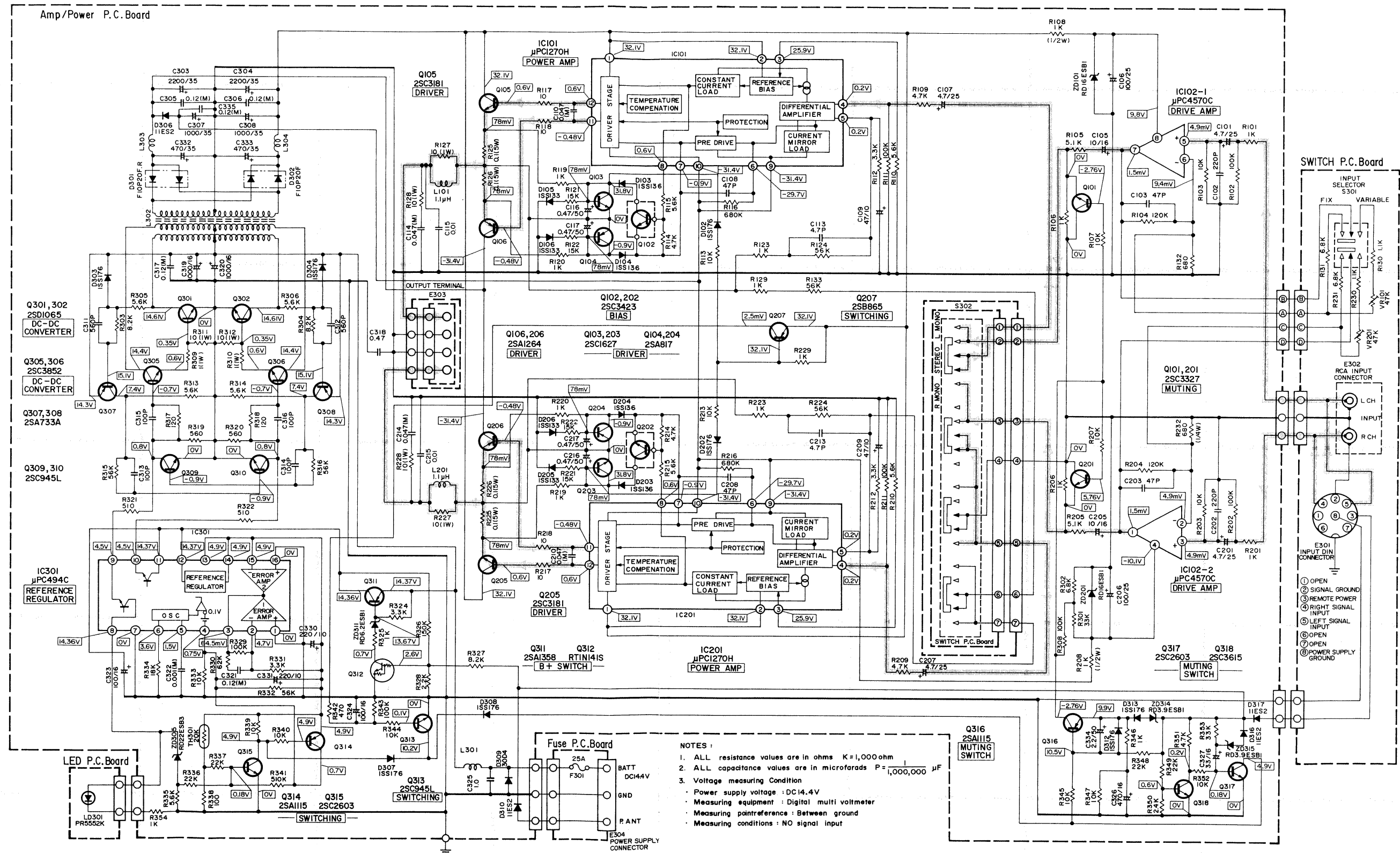


Figure 2

Block Diagram

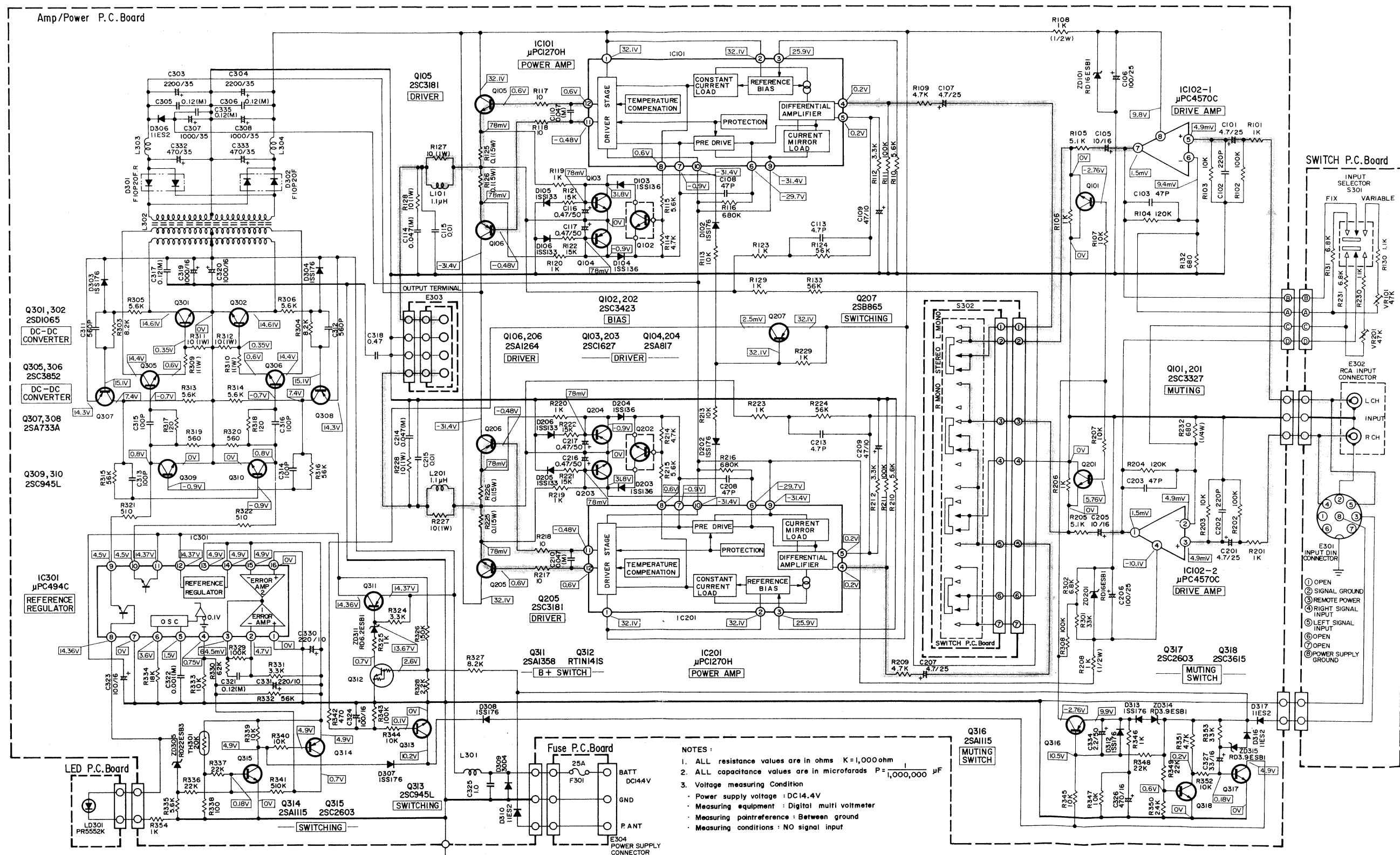


Schematic Diagram

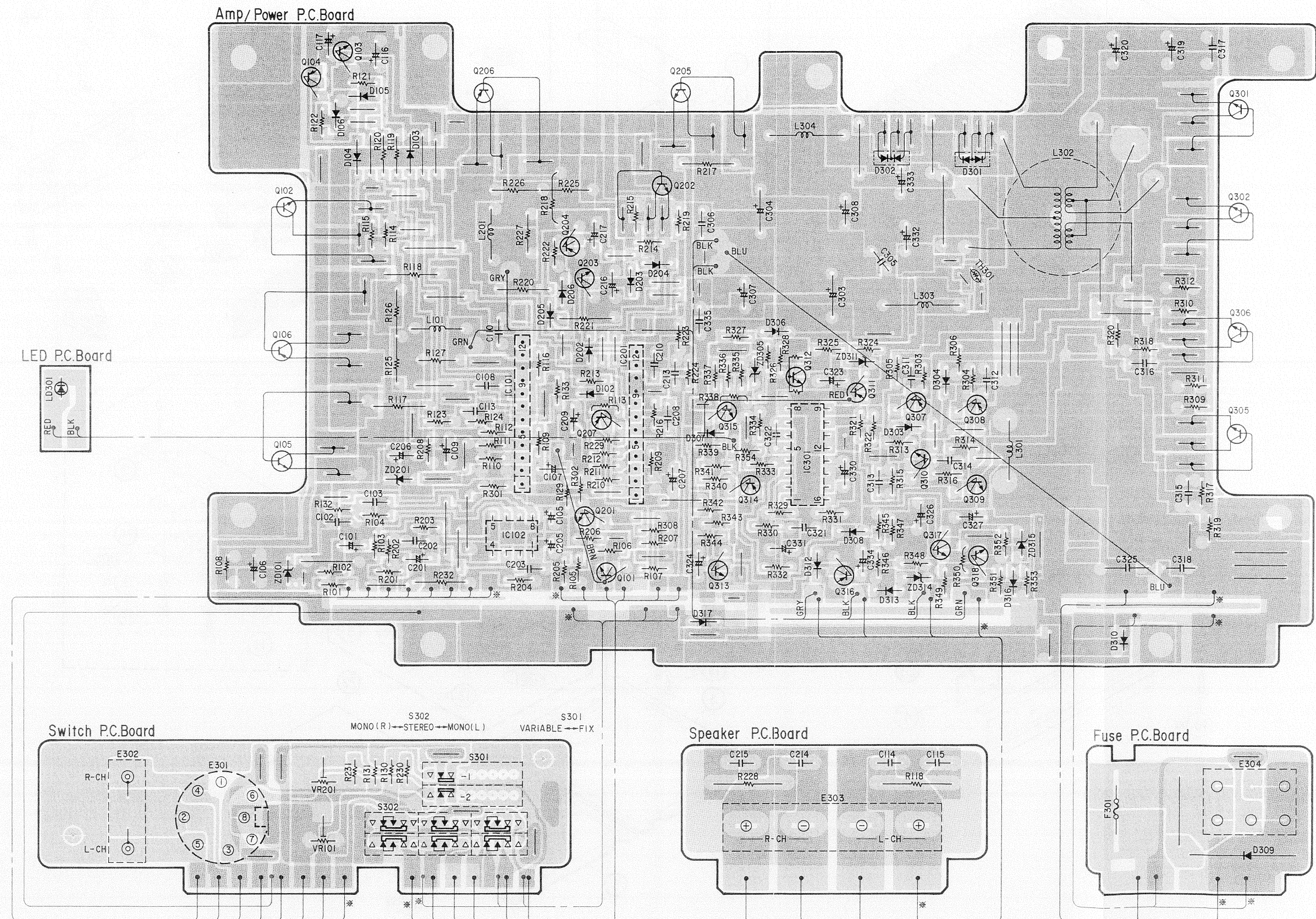


Schematic Diagram

IC	IC301															IC101 IC201		IC102						
Transistor (Q)																Q105 Q106			Q103 Q104 Q102			Q101		
	Q307	Q305	Q309	Q301	Q302	Q310	Q306	Q308				Q206			Q207			Q201						
					Q315			Q314	Q311			Q205						Q316			Q318	Q317		
									Q312	Q313				Q203 Q204 Q202										



Parts Layout on P.C. Boards and Wiring Diagram



Cabinet Assembly Parts List

Symbol No.	Index	Part No.	Description		
1	5-C	27E04595S01	Chassis, Front		
2	2-H	27E04894S01	Chassis, Rear		
4	5-C	15B70599F01	Cover, LED		
9	1-G	03E04876S01	Screw, Pan (M2×6)		
10	5-A	03E04877S01	Screw, Pan (M2.6×6)		
11	4-C	03E04878S01	Screw, Pan (M3×8)		
12	2-D	03E04879S01	Screw, Pan (M3×10)		
13	4-E	03E04880S01	Screw, Pan (M3×5)		
14	3-D	03E04881S01	Screw, Bind (M2.6×12)		
15	5-D	03E04882S01	Screw, Bind (M2.6×5)		
16	2-E	03E04883S01	Screw, Bind (M2.6×6)		
17	1-H	03E04898S01	Screw, Pan (M2.6×4)		
18	4-C	04E04885S01	Washer, Flat (M3×8)		
20	1-H	07A73138F01	Bracket, SW Lock		
21	1-H	14A73139F01	Insulator SW Lock		
29	1-F	65E04899S01	Holder, Auto Fuse		

NOTE : The parts without part numbers are not supplied.

Electrical Parts List

Resistors: Carbon resistors under ¼ watts are not mentioned in the parts list, please confirm them by schematic diagram.
 uF = microfarads, pF = picofarads

Abbreviations				
RES. = Resistor	CAP. = Capacitor			
C.F. = Carbon Film	ELY. = Electrolytic			
M.F. = Metal Film	CER. = Ceramic			
M.O. = Metal Oxide Film	MYL. = Mylar			
M.P. = Metal Plate	TAN. = Tantalum			
TR. = Transistor	POLY. = Polystyrol			
TRANS. = Transformer	PP. = Polypropylene			
CP. = Chip	PLT. = Polyethylene			
Symbol No.	Part No.	Description		
Amp/Power P.C.Board				
IC's				
IC102	51T83403F03	μ PC4570C		
IC301	51T70759F01	μ PC494C		
Transistors				
Q101	48E03491S01	2SC3327		
Q102	48T64376F01	2SC3423		
Q103	48E04056S01	2SC1627		
Q104	48E04055S01	2SA817		
Q201	48E03491S01	2SC3327		
Q203	48E04056S01	2SC1627		
Q204	48E04055S01	2SA817		
Q207	48E04811S01	2SB865		
Q307	48T40081T03	2SA733A		
Q308	48T40081T03	2SA733A		
Q309	48S44578J01	2SC945L		
Q310	48S44578J01	2SC945L		
Q311	48T69177F01	2SA1358		
Q312	48E03490S01	RT1N141S		
Q313	48S44578J01	2SC945L		
Q314	48E03814S01	2SA1115		
Q315	48T50625F01	2SC2603		
Q316	48E03814S01	2SA1115		
Q317	48T50625F01	2SC2603		
Q318	48E04847S01	2SC3615		
Diodes				
ZD101	48T68762F59	Zener, RD16ESB1		
D102	48T58583F01	1SS176		
D103	48T70933F01	1SS136		
D104	48T70933F01	1SS136		
D105	48T68828F01	1SS133		
D106	48T68828F01	1SS133		
ZD201	48T68702F59	Zener, RD16ESB1		
D202	48T58583F01	1SS176		
D203	48T70933F01	1SS136		
D204	48T70933F01	1SS136		
D205	48T68828F01	1SS133		
D206	48T68828F01	1SS133		
D303	48T58583F01	1SS176		
D304	48T58583F01	1SS176		
ZD305	48T68702F70	Zener, RD22ESB3		

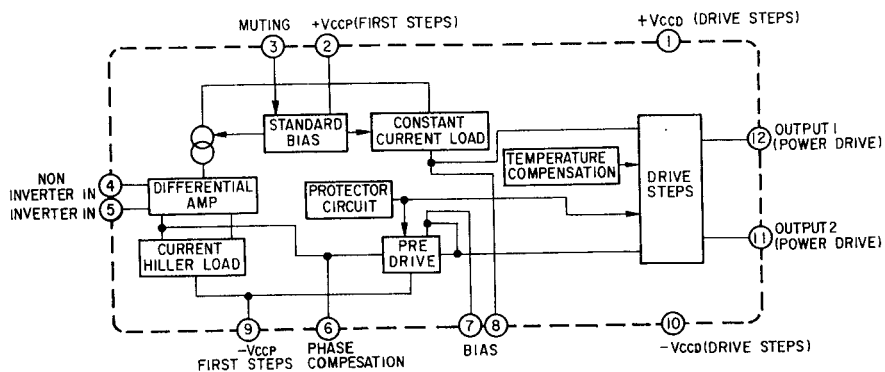
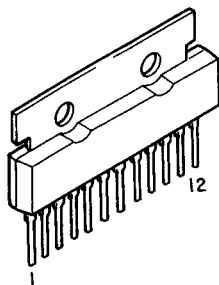
Symbol No.	Part No.	Description		
D306	48T84052F01	11ES2		
D307	48T58583F01	1SS176		
D308	48T58583F01	1SS176		
D310	48T84052F01	11ES2		
ZD311	48T68702F29	Zener, RD6.2ESB1		
D312	48T58583F01	1SS176		
D313	48T58583F01	1SS176		
ZD314	48E04813S01	Zener, RD3.9ESB1		
ZD315	48E04813S01	Zener, RD3.9ESB1		
D316	48T84052F01	11ES2		
D317	48T84052F01	11ES2		
Thermistor				
TH301	48T60670F01	TD5-C320DA2 20K ohm		
Coils				
L101	24E04053S01	Output, 1.1 μH		
L201	24E04053S01	Output, 1.1 μH		
L303	24E04815S01	Choke, 200 μH		
L304	24E04815S01	Choke, 200 μH		
Capacitors				
C101	23E04822S01	ELY., 4.7 μF/25V		
C102	08E04860S01	MYL., 220pF		
C103	08E04861S01	MYL., 47pF		
C105	23E04862S01	ELY., 10 μF/16V		
C106	23E04821S01	ELY., 100 μF/25V		
C107	23E04822S01	ELY., 4.7 μF/25V		
C108	08E04861S01	MYL., 47pF		
C109	23E04824S01	ELY., 47 μF/10V		
C110	08E04825S01	MYL., 0.047 μF		
C113	08E04863S01	MYL., 4.7pF		
C116	23E04826S01	ELY., 0.47 μF/50V		
C117	23E04826S01	ELY., 0.47 μF/50V		
C201	23E04822S01	ELY., 4.7 μF/25V		
C202	08E04860S01	MYL., 220pF		
C203	08E04861S01	MYL., 47pF		
C205	23E04862S01	ELY., 10 μF/16V		
C206	23E04821S01	ELY., 100 μF/25V		
C207	23E04822S01	ELY., 4.7 μF/25V		
C208	08E04861S01	MYL., 47pF		
C209	23E04824S01	ELY., 47 μF/10V		
C210	08E04825S01	MYL., 0.047 μF		
C213	08E04863S01	MYL., 4.7pF		
C216	23E04826S01	ELY., 0.47 μF/50V		
C217	23E04826S01	ELY., 0.47 μF/50V		
C303	23E04864S01	ELY., 2200 μF/35V		
C304	23E04864S01	ELY., 2200 μF/35V		
C305	08E04854S01	TF., 0.12 μF		
C306	08E04855S01	TF., 0.12 μF		
C307	23E04829S01	ELY., 1000 μF/35V		
C308	23E04829S01	ELY., 1000 μF/35V		
C311	21E04830S01	MYL., 560pF		
C312	21E04830S01	MYL., 560pF		

Symbol No.	Part No.	Description		
C313	21E04831S01	MYL., 100pF		
C314	21E04831S01	MYL., 100pF		
C315	21E04831S01	MYL., 100pF		
C316	21E04831S01	MYL., 100pF		
C317	08E04855S01	TF., 0.12 μ F		
C318	08E04856S01	TF., 0.47 μ F		
C319	23E04832S01	ELY., 1000 μ F/16V		
C320	23E04832S01	ELY., 1000 μ F/16V		
C321	08E04855S01	TF., 0.12 μ F		
C322	08E04865S01	MYL., 0.001 μ F		
C323	23E04833S01	ELY., 100 μ F/16V		
C324	23E04833S01	ELY., 100 μ F/16V		
C325	08E04858S01	Film, 1 μ F		
C326	23E04834S01	ELY., 470 μ F/16V		
C327	23E04866S01	ELY., 33 μ F/16V		
C330	23E04836S01	ELY., 220 μ F/10V		
C331	23E04836S01	ELY., 220 μ F/10V		
C332	23E04837S01	ELY., 470 μ F/35V		
C333	23E04837S01	ELY., 470 μ F/35V		
C334	23E04867S01	ELY., 2.2 μ F/50V		
C335	08E04855S01	TF., 0.12 μ F		
Resistors				
R108	06E04839S01	1K ohm		
R125	06E04868S01	0.1 ohm		
R126	06E04868S01	0.1 ohm		
R127	06E04841S01	10 ohm 1W		
R208	06E04839S01	1K ohm		
R225	06E04868S01	0.1 ohm		
R226	06E04868S01	0.1 ohm		
R227	06E04841S01	10 ohm 1W		
R309	06E04869S01	1 ohm 1W		
R310	06E04869S01	1 ohm 1W		
R311	06E04841S01	10 ohm 1W		
R312	06E04841S01	10 ohm 1W		
Switch P.C.Board				
Volumes				
VR101	18E04843S01	47K ohm		
VR201	18E04843S01	47K ohm		
Speaker P.C.Board				
Capacitors				
C114	08E04825S01	Film, 0.047 μ F		
C115	08E04859S01	Film, 0.01 μ F		
C214	08E04825S01	Film, 0.047 μ F		
C215	08E04859S01	Film, 0.01 μ F		
Resistors				
R128	06E04841S01	10 ohm 1W		
R228	06E04841S01	10 ohm 1W		

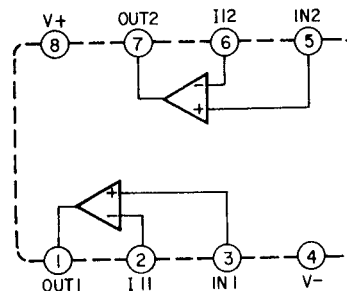
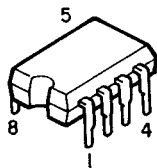
Symbol No.	Part No.	Description		
Fuse P.C.Board				
Diode				
D309	48T68079F03	30D4		
LED P.C.Board				
LED				
LD301	48T52238F02	PR5552K(RED)		
Miscellaneous Parts				
D301	48E04803S01	Diode,F10P20FR		
D302	48E04804S01	Diode,F10P20F		
E301	01E04809S01	DIN Input connector		
E302	01E04810S01	RCA Input connectors		
E303	09E04902S01	Output Terminals		
E304	01E04903S01	Power Supply connector		
F301	65E05032S01	Fuse 30A		
IC101	51E03492S01	IC, μ PC1270H		
IC201	51E03492S01	IC, μ PC1270H		
L301	25E04807S01	Choke Coil, TRANS.		
L302	25E04808S01	Coil,TRANS.		
Q105	48T51732F03	TR.,2SC3181N		
Q106	48T57131F03	TR.,2SA1264N		
Q202	48T64376F01	TR.,2SC3423		
Q205	48T57132F03	TR.,2SC3181N		
Q206	48T57131F03	TR.,2SA1264N		
Q301	48T47613F01	TR.,2SD1065		
Q302	48T47613F01	TR.,2SD1065		
Q305	48T82883F01	TR.,2SC3852		
Q306	48T82883F01	TR.,2SC3852		
S301	40E04805S01	Switch, (Input Selector)		
S302	40E04806S01	Switch, (Bridged/Stereo Mode)		

Semi-Conductor Lead Identifications

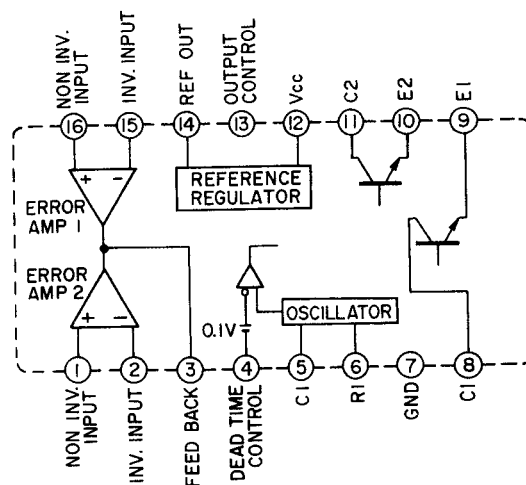
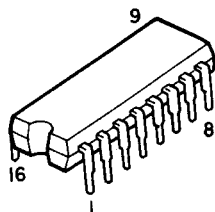
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μ PC4570C : IC102



μ PC494C : IC301



2SC3327 : Q101, 201



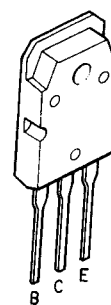
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2SA1358 : Q311



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2SA817 : Q104, 204
2SA733A : Q307, 308
2SC945L : Q309, 310, 313

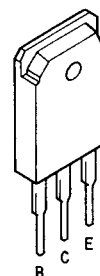
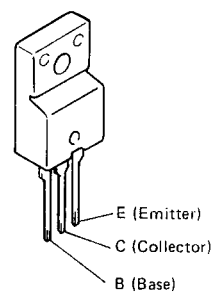
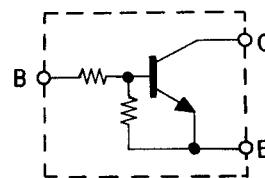


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2SA1264N : Q106, 206

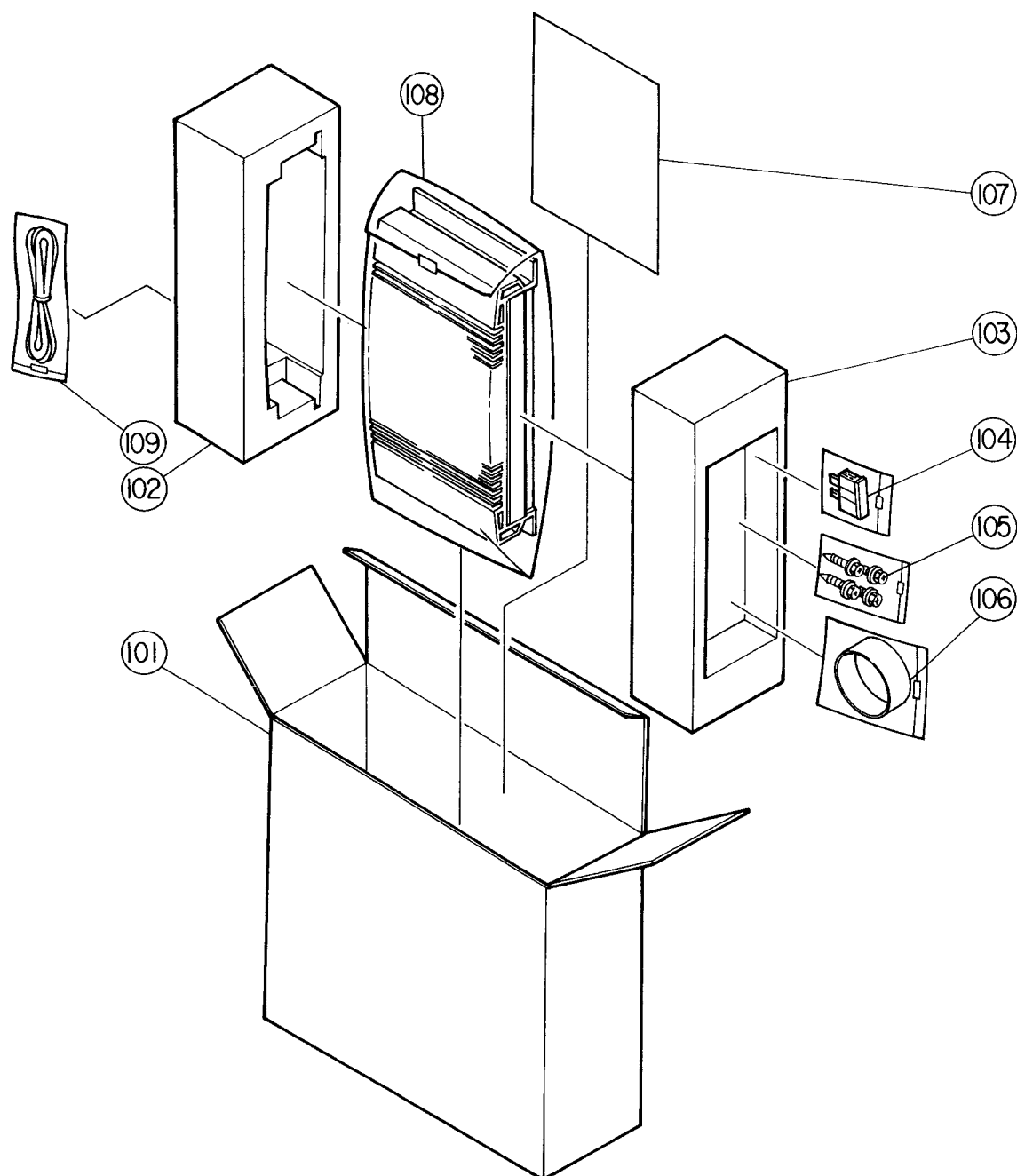


2SB865 : Q207
2SC3615 : Q318



2SD1065 : Q301, 302**2SC3852 : Q305, 306****RTIN141S : Q312****2SA1115 : Q314, 316**
2SC2603 : Q315, 317

Packing Method View



Packing Assembly Parts List

Symbol No.	Part No.	Description		
● 101	56E04901S01	Carton,Packing		
■ 101	56E04901S02	Carton,Packing		
102	56E04046S01	Tray,Packing(R)		
103	56E04045S01	Tray,Packing(F)		
104	65E05032S01	Fuse,30A		
105	03E04893S01	Screw(M4×14)		
106	15A81064F01	Housing,Rubber		

Symbol No.	Part No.	Description		
● 107	68P81880F73	Owner's Manual		
■ 107	68P81880F74	Owner's Manual		
108	56E04887S01	Sack,Polyethylene		
109	01E04044S01	Assy.,Power Connector		

● : For North American model only.

■ : For European model only. Others : Common